

CLAIMS

1. A method of providing fault protection of special purpose devices (SPDs) included in at least one communication network (LAN1, LAN2, LAN3) and performing respective functions (F1, F2, F3, F4), characterized in that it includes the steps of:

- providing a set of general purpose devices (GPDs) adapted to be configured to perform said respective functions (F1, F2, F3, F4), and
- in the presence of a function (F1, F2, F3, F4) exposed to a faulty condition in any of said special purpose devices (SPDs), applying at least one of said general purpose devices (GPDs) in performing said respective function exposed to said faulty condition.

2. The method of claim 1, characterized in that it includes the steps of:

- including in said special purpose devices (SPDs) a fault handler module (FH),
- locating said faulty condition in the respective special purpose device (SPD) by means of said fault handler module (FH), and
- issuing a request for a general purpose device (GPD) in said set to be applied in performing said function exposed to said faulty condition.

3. The method of claim 1, characterized in that it includes the step of substituting by means of a software function performed by a general purpose device (GPD) in said set a faulty hardware function performed in one of said special purpose devices (SPDs).

4. The method of claim 1, characterized in that it includes the step of transferring resources needed to perform said respective function exposed to a faulty condition to a general purpose device (GPD1) in said set.

5. The method of claim 1, characterized in that it includes the steps of:

- configuring said general purpose devices (GPDs) in said set for resource sharing, and
- transferring resources needed to perform said respective function exposed to a faulty condition to a general purpose device (GPD1) in said set from another general purpose device (GPD2) in said set.

6. The method of claim 1, characterized in that it includes the step of arranging said set of general purpose devices (GPDs) in a distributed system (DS).

7. The method of claim 1, characterized in that it includes the step of associating with said set of general purpose devices (GPDs) a distribution center (CDC) storing code segments (C1, C2, C3) adapted to be transferred to said general purpose devices (GPDs) in said set to configure them to perform said respective functions exposed to faulty condition.

8. The method of claim 7, characterized in that it includes the steps of:

- configuring said distribution center (CDC) for receiving from said special purpose devices (SPDs) requests indicative of a faulty condition in said special purpose devices (SPDs), and
- upon receiving any said request, sending from said distribution center (CDC) a set of code segments for performing a respective function exposed to said faulty condition to at least one general purpose device (GPD) in said set thereby configuring said general purpose device to substitute the special purpose device (SPD) exposed to said faulty condition in performing said respective functions.

9. A system for providing fault protection of special purpose devices (SPDs) included in at least one communication network (LAN1, LAN2, LAN3) and performing respective functions (F1, F2, F3, F4), characterized in

that it includes a set of general purpose devices (GPDs) adapted to be configured to perform said respective functions (F1, F2, F3, F4) in the presence of a function (F1, F2, F3, F4) exposed to a faulty condition in any of said special purpose devices (SPDs).

10. The system of claim 9, characterized in that it includes fault handler modules (FH) for locating said faulty conditions in respective special purpose devices (SPD) and issuing requests for a general purpose device (GPD) in said set to be applied in performing said function exposed to said faulty condition.

11. The system of claim 9, characterized in that it includes software code portions in said set of general purpose devices (GPDs), said software code portions being adapted to implement faulty hardware functions performed in at least one of said special purpose devices (SPDs).

12. The system of claim 9, characterized in that it includes a communication facility (IN) adapted for transferring resources needed to perform said respective function exposed to a faulty condition to a general purpose device (GPD1) in said set.

13. The system of claim 9, characterized in that it includes said general purpose devices (GPDs) in said set configured for resource sharing, and a communication facility (IN) adapted for transferring resources needed to perform said respective function exposed to a faulty condition to a general purpose device (GPD1) in said set from another general purpose device (GPD2) in said set.

14. The system of claim 9, characterized in that said set of general purpose devices (GPDs) are arranged in a distributed system (DS).

15. The system of claim 9, characterized in that it includes associated with said set of general purpose devices (GPDs) a distribution center (CDC) storing code segments (C1, C2, C3) adapted to be transferred to said general purpose devices (GPDs) in said set to configure them to perform said respective functions exposed to faulty condition.

16. The system of claim 15, characterized in that it includes said distribution center (CDC) configured for receiving from said special purpose devices (SPDs) requests indicative of a faulty condition in said special purpose devices (SPDs), and, upon receiving any said request, sending from said distribution center (CDC) a set of code segments for performing a respective function exposed to said faulty condition to at least one general purpose device (GPD) in said set thereby configuring said general purpose device to substitute the special purpose device (SPD) exposed to said faulty condition in performing said respective functions.

17. A communication network having associated a fault protection system according to any of claims 9 to 16.

18. A computer program product loadable in the memory of at least one computer and including software code portions for performing the steps of the method of any of claims 1 to 8.